

INSTRUCTIONS FOR OPERATING YOUR

**SCHAUER®
BATTERY CHARGER**

These Battery Chargers are skillfully made of the finest materials and when used as directed, should give you years of satisfactory service and also aid in increasing the life of your battery.

AUTOMOTIVE DIVISION

SCHAUER MANUFACTURING CORP.

4500 ALPINE AVENUE
CINCINNATI, OHIO 45242

1. Your battery may be charged in your car without removing it or without disturbing the cable connectors at the battery terminals.

When charging batteries in cars equipped with alternators, either one or both cables should be disconnected from the battery before connecting charger. Reversing polarity may result in damaging rectifiers in alternator.

Chargers for 6 volt batteries should be used for charging 6 volt batteries only. Chargers for 12 volt batteries should be used for charging one 12 volt battery or may also be used to charge two six volt batteries when connected in series, that is, positive (+) clip of charger to the positive terminal of first battery, then a jumper connector from the (−) negative terminal of the first to (+) positive terminal of second battery, finally connect (−) negative or plain clip of charger to (−) negative terminal of second battery. Do not attempt to charge batteries of voltages different than the voltage shown on the charger nameplate.

2. Some models are made to charge both 6 and 12 volt batteries. These are described later.
3. Connect battery clips to battery terminals. Clip with (+) mark (red clip on some models) connects to positive terminal of battery. Clip with no marking (black clip on some models) connects to negative terminal of battery. Be sure that battery terminals or fittings are clean where charger clips are to be connected. Move clips back and forth several times to be sure a tight connection is made.
4. If sparking occurs at battery clips when connecting them to battery terminals, or if ammeter indicator periodically swings from side to side accompanied by a clicking sound of the automatic circuit breaker making and breaking contact, the clips should be reversed on the battery terminals. (See Paragraph 7.)
5. Make sure that the voltage of the battery is the same as that of the charger, as mentioned previously. Connect AC plug to an alternating current outlet of the same VOLTAGE AND FREQUENCY shown on the nameplate. (To prevent short circuiting of the battery charger, be sure to connect clips to battery terminals before plugging into the AC outlet.)

6. **CHARGER GUARD** — Your Battery Charger is equipped with an automatic circuit breaker (Charger Guard) which protects the charger against short circuits and overloads which cause the circuit breaker to trip open when they occur. After a short cooling-off period the circuit breaker will "reset" automatically and allow the charger to operate normally. If the circuit-breaker trips open, make sure battery connections are correct and check ammeter reading to determine if charging rate is higher than shown on the nameplate.
7. **IF THE CHARGER GUARD CONTINUES TO TRIP**, and you have checked your connections to see that they are correct, the probable cause is in the battery, which may have been allowed to discharge below its normal discharge condition or it may have one or more shorted cells. If this condition exists, it will draw too much current and cause the circuit breaker to trip on and off and the meter hand to swing from one side to the other. This will continue until the battery has recovered sufficiently to allow a normal charging current. A method of overcoming this condition that has proven successful is as follows:

Connect one end of about 12 feet of ordinary lamp cord to the positive (+) charger clip and the other end of the lamp cord to the positive (+) battery terminal. Connect clip with no mark to the negative (-) battery terminal. Connect charger to A.C. If charger guard stops clicking on and off, leave lamp cord connected for one to two hours as charging continues. Cord may then be removed and positive (+) clip connected directly to positive (+) battery terminal.

Should one or more cells be defective, the circuit breaker and meter will continue on and off until condition corrects itself or is otherwise corrected.

8. **CHARGING PERIOD** — The charging rate depends upon the A.C. supply voltage and the internal condition of the battery. Under certain of these conditions the charger may not deliver its maximum charging rate to the battery, but this should not be taken as an indication that the charger is inefficient.

The following table will show the average time required to charge a battery. This table is meant to serve as a guide only as many factors govern the time needed for charging.

CHARGER SIZE	CHARGING TIME	
	FOR 6 VOLT BATTERIES	FOR 12 VOLT BATTERIES
1 Amp.	70-80 Hours	45-60 Hours
1 $\frac{1}{2}$ Amp.	50-60 Hours	30-45 Hours
3 Amp.		8-10 Hours
4 Amp.	10-14 Hours	5-7 Hours
6 Amp.	7-9 Hours	4-5 Hours
8 Amp.	6-8 Hours	3-4 Hours
10 Amp.	5-6 Hours	2 $\frac{1}{2}$ -3 Hours
20 Amp.	1 $\frac{1}{2}$ -3 Hours	1 $\frac{1}{2}$ -3 Hours

9. Some models of chargers are equipped with ammeters that show the rate of charge. As the battery becomes fully charged, the meter will gradually indicate a lower charging rate until it reaches a point approximately one-half the original charging rate. For example, if the starting charging rate is 10 amperes, the needle of the ammeter will gradually move as the battery is charged, until it indicates a rate of 5 to 6 amperes, if the battery is in normal condition.

Sometimes the needle on the ammeter will remain at one point without indicating a lowering charge rate as the battery becomes charged. This is due to the condition of the battery and is no cause for concern.

10. When you feel that the battery has been sufficiently charged, the charger should be disconnected from both the battery and the A.C. line, as it does not shut off automatically. The charger should not be left connected for an indefinite length of time.

Disconnect AC cord before disconnecting clips from battery.

11. When fully charged, the hydrometer reading of a battery in good condition should be between 1,250 and 1,285.

OTHER USES — These Chargers have other uses, too. They may be used as sources of direct current of their nameplate ratings for operating equipment such as electric plating, motors, toys, bells, etc.

8 VOLT BATTERIES

8-volt batteries may be charged with a 6 volt charger or with the 6 volt side of a 6/12 volt charger.

MODELS FOR CHARGING 6 VOLT BATTERIES — Connect and use as in Paragraph No. 3.

MODELS FOR CHARGING 12 VOLT BATTERIES — Connect and use as in Paragraph No. 3.

MODELS FOR CHARGING BOTH 6 AND 12 VOLT BATTERIES (See charger nameplate)

Connect as in Paragraph No. 3, making certain before connecting to A.C. current that the switch on the charger is turned to 6 or 12, depending on the battery voltage. Charging procedure is same as in general instructions.

MODELS BR212, BR312, AND VBR212

Connect as in Paragraph 3. To be used on 12 volt batteries only. Make sure that battery clips have good "bite" on battery terminals. On batteries that have been pretty well discharged, the charging time will average approximately 3-1/2 to 4-1/2 hours. On batteries that are only slightly discharged, it may take only 3 to 10 minutes.

- These chargers are fully automatic, putting into the battery only the amount of charge required to fully charge the battery. As the battery becomes charged, the charging rate will taper, often to near 0. At this point the ammeter needle may fluctuate rapidly. This is a normal condition and no cause for alarm.
- If any power is drawn from the battery, such as lights, radio, etc., the charger will automatically start charging again. If no load is connected to battery a pulsating charge will cause the meter hand to vibrate periodically.

MODEL DX3 BATTERY CHARGER

When charging one 6 volt battery, connect as in Paragraph No. 3. Turn selector switch to position marked "one 6 volt battery."

- To charge one 12 volt battery, connect as in Paragraph No. 3. Turn selector switch to position marked "two 6 volt batteries in series or one 12 volt battery."
- When two or three batteries are to be charged at the same time, connect batteries in series, that is positive (+) terminal of one battery to negative (-) terminal of the other. Attach battery clip marked + to + terminal of one battery and clip with no marking to negative (-) terminal of last battery. When charging two 6 volt batteries, turn selector switch to second position.
- When selector switch is turned to third position it will charge three 6 volt batteries or one 12 volt and one 6 volt battery.
- Do not try to charge only one 6 volt battery on either second or third positions.

MODEL F3612

Turn switch to either 6 or 12 volts, depending on battery voltage, before connecting charger as outlined in Paragraph No. 3.

- When charging period has been completed, switch may be turned to "LO" until charger is disconnected.
- If only a trickle charge is required for one battery, connect battery as above, turn voltage switch to proper battery voltage and turn rate switch to "LO."
- When connected in parallel, several batteries may be charged at the same time. The approximate charging rate per battery may be determined by dividing 20 amperes by the number of batteries connected.

Should any repairs become necessary you can send your charger to our plant or send it to one of our authorized service depots, transportation charges prepaid.

Care should be used in packing so that the charger will not be damaged in transit.

DRY CHARGE BATTERIES — For greatest efficiency, dry charge batteries should be charged right after electrolyte has been put in. (See battery manufacturer recommendations for length of charge.)

W A R R A N T Y

All Schauer products are constantly inspected during manufacture and before shipment to insure the highest standards of quality, workmanship and materials. If used according to instructions, this instrument will give you excellent service. It is guaranteed against mechanical and electrical defects for one year and, if such should occur, this unit will be repaired without charge if sent, transportation charges prepaid and packed so as to prevent transportation damages, to our factory.

Any alteration, careless or improper usage voids this warranty. Unless, in our opinion, this product is definitely mechanically defective, a nominal charge will be made for repair of units which are out of order for reasons other than defects in workmanship or material. Physical damage to the case or any part or parts of this product due to any cause other than malfunction of this instrument is not covered by this warranty.

The Schauer Manufacturing Corporation obligation under this warranty is limited to replacing or repairing any defective part or parts when returned to the factory, transportation charges prepaid.

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